Nikon

DIGITAL CAMERA



User's Manual

Technical Notes

- Camera Care, Options, and Resources

This chapter covers the following topics:

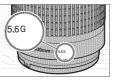
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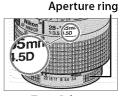
Compatible Lenses

CPU lenses (particularly types G and D) are recommended for use with the D700. CPU lenses can be identified by the presence of CPU contacts, type G and D lenses by a letter on the lens barrel. Type G lenses are not equipped with a lens aperture ring.

CPU contacts







CPU lens

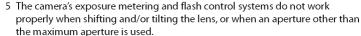
Type G lens

Type D lens

Compatible CPU Lenses 1

Camera setting	Focus mode			Expo	sure de	Metering system		
Lens/accessory	S	M (with electronic rangefinder)	M	P S	A M		Color	(e) (-)
Type G or D AF Nikkor ² AF-S, AF-I Nikkor	~	V	~	~	~	~	_	✓ 3
PC-E NIKKOR series	_	✓ 4	V	V 4	✓ 4	V 4	_	✓ 3, 4
PC Micro 85mm f/2.8D ⁵	_	✓ 4	V	_	✓ 6	~	_	✓ 3, 4
AF-S / AF-I Teleconverter ⁷	✓8	√ 8	V	V	V	~	_	✓3
Other AF Nikkor (except lenses for F3AF)	✓ 9	✓ 9	V	~	V		~	✓ 3
AI-P Nikkor	_	✓ 10	~	~	~	_	V	✓ 3

- 1 IX-Nikkor lenses can not be used.
- 2 Vibration Reduction (VR) supported with VR lenses.
- 3 Spot metering meters selected focus point.
- 4 Can not be used with shifting or tilting.



- 6 Manual exposure mode only.
- 7 Can be used with AF-S and AF-I lenses only (pg. 371).
- 8 With maximum effective aperture of f/5.6 or faster.

- 9 When focusing at minimum focus distance with AF 80-200mm f/2.8, AF 35-70mm f/2.8, AF 28-85mm f/3.5-4.5 <New>, or AF 28-85mm f/3.5-4.5 lens at maximum zoom, in-focus indicator may be displayed when image on matte screen in viewfinder is not in focus. Adjust focus manually until image in viewfinder is in focus.
- 10 With maximum aperture of f/5.6 or faster.

The AF-S/AF-I Teleconverter

The AF-S/AF-I teleconverter can be used with the following AF-S and AF-I lenses:

- AF-S VR Micro 105mm f/2.8G ED¹
- AF-S VR 200mm f/2G FD
- AF-S VR 300mm f/2.8G ED
- AF-S 300mm f/2.8D ED II
- AF-S 300mm f/2.8D FD
- AF-I 300mm f/2.8D ED
- AF-S 300mm f/4D FD²
- AF-S NIKKOR 400mm f/2.8G FD VR
- AF-S 400mm f/2.8D FD II
- AF-S 400mm f/2.8D FD
- AF-I 400mm f/2.8D ED
- 1 Autofocus not supported.

- AF-S NIKKOR 500mm f/4G ED VR²
- AF-S 500mm f/4D FD II²
- AF-S 500mm f/4D ED²
- AF-I 500mm f/4D ED 2
- AF-S NIKKOR 600mm f/4G FD VR²
- AF-S 600mm f/4D ED II²
- AF-S 600mm f/4D FD²
- AF-I 600mm f/4D FD²
- AF-S VR 70-200mm f/2.8G FD
- AF-S 80-200mm f/2.8D FD
- AF-S VR 200–400mm f/4G ED²

2 Autofocus not supported when used with AF-S Teleconverter TC-17E II/TC-20E II.

Lens f-number

The f-number given in lens names is the maximum aperture of the lens.



Non-CPU Lenses 1

Non-CPU lenses include manual focus lenses and other lenses without a built-in CPU. The following is a list of compatible non-CPU lenses and accessories.

Camera setting		Focus mode			Exposure mode		Metering system		
Lens/accessory	S	M (with electronic rangefinder)	M	P S	A M	3D	Color	(e)	
Al-, Al-modified, Nikkor or Nikon Series E lenses ²	_	✓ 3	~	_	V 4	_	✓ 5	✓ 6	
Medical-Nikkor 120mm f/4	_	~	~	_	17	_	T-	_	
Reflex-Nikkor	_	_	V	_	V4	_	T —	✓ 6	
PC-Nikkor	_	✓ 8	~	_	√ 9	<u> </u>	<u> </u>	V	
Al-type Teleconverter 10	_	✓ 11	~	_	V4	_	✓ 5	✓ 6	
PB-6 Bellows Focusing Attachment 12	_	✓ 11	~	_	✓ 13	_	_	~	
Auto extension rings (PK-series 11A, 12, or 13; PN-11)	_	✓ 11	~	_	✓ 4	_	_	V	

- 1 Some lenses can not be used (pg. 373).
- 2 Range of rotation for Al 80–200mm f/2.8 ED tripod mount is limited by camera body. Filters can not be exchanged while Al 200–400mm f/4 ED is mounted on camera.
- 3 With maximum aperture of f/5.6 or faster.
- 4 If maximum aperture is specified using **Non-CPU lens data** (pg. 210), aperture value will be displayed in viewfinder and control panel.
- 5 Can be used only if lens focal length and maximum aperture are specified using Non-CPU lens data (pg. 210). Use spot or center-weighted metering if desired results are not achieved.
- 6 For improved precision, specify lens focal length and maximum aperture using **Non-CPU lens data** (pg. 210).
- 7 Can be used in manual exposure modes at shutter speeds slower than $^{1}/_{125}$ s.
- 8 Electronic rangefinder can not be used with shifting or tilting.
- 9 Exposure determined by presetting lens aperture. In aperture-priority auto exposure mode, preset aperture using lens aperture ring before performing AE lock or shifting lens. In manual exposure mode, preset aperture using lens aperture ring and determine exposure before shifting lens.
- 10 Exposure compensation required when used with AI 28–85mm f/3.5–4.5, AI 35–105mm f/3.5–4.5, AI 35–135mm f/3.5–4.5, or AF-S 80–200mm f/2.8D. See teleconverter manual for details.
- 11 With maximum effective aperture of f/5.6 or faster.



- 12 Requires PK-12 or PK-13 auto extension ring. PB-6D may be required depending on camera orientation.
- 13 Use preset aperture. In aperture-priority auto exposure mode, set aperture using focusing attachment before determining exposure and taking photograph.
- PF-4 Reprocopy Outfit requires PA-4 Camera Holder.

Compatible Non-CPU Lenses

If lens data are specified using **Non-CPU lens data** (pg. 210), many of the features available with CPU lenses can also be used with non-CPU lenses. If lens data are not specified, color matrix metering can not be used, and center-weighted metering is used when matrix metering is selected.

Non-CPU lenses can only be used in exposure modes A and A, when aperture must be set using the lens aperture ring. If the maximum aperture has not been specified using **Non-CPU lens data**, the camera aperture display will show the number of stops from maximum aperture; the actual aperture value must be read off the lens aperture ring. Aperture-priority auto will be selected automatically in exposure modes P and S. The exposure-mode indicator (P or S) in the control panel will blink, and A will be displayed in the viewfinder.

Incompatible Accessories and Non-CPU Lenses

The following accessories and non-CPU lenses can NOT be used with the D700:

- TC-16AS AF teleconverter
- Non-Al lenses
- Lenses that require the AU-1 focusing unit (400mm f/4.5, 600mm f/5.6, 800mm f/8, 1200mm f/11)
- Fisheye (6mm f/5.6, 7.5mm f/5.6, 8mm f/8, OP 10mm f/5.6)
- 2.1cm f/4
- Extension Ring K2
- 180–600mm f/8 ED (serial numbers 174041–174180)
- 360–1200mm f/11 ED (serial numbers 174031–174127)
- 200–600mm f/9.5 (serial numbers 280001–300490)

- AF lenses for the F3AF (AF 80mm f/2.8, AF 200mm f/3.5 ED, AF Teleconverter TC-16)
- PC 28mm f/4 (serial number 180900 or earlier)
- PC 35mm f/2.8 (serial numbers 851001–906200)
- PC 35mm f/3.5 (old type)
- Reflex 1000mm f/6.3 (old type)
- Reflex 1000mm f/11 (serial numbers 142361–143000)
- Reflex 2000mm f/11 (serial numbers 200111–200310)



The Built-in Flash

The built-in flash can be used with CPU lenses with focal lengths of 24 mm (16 mm in DX format) to 300mm. Remove lens hoods to prevent shadows. The flash has a minimum range of 60 cm (2 ft.) and can not be used in the macro range of macro zoom lenses. The flash may be unable to light the entire subject with the following lenses at ranges less than those given below:

1.77	Lens	Zoom position	Min. range
	AF-S DX 12–24mm f/4G ED	18 mm	0.6 m/2 ft.
ΣX	AF-S DX 17-55mm f/2.8G ED	20 mm	1.5 m/4 ft. 11 in.
	AF-S 17–35mm f/2.8D ED	28 mm	1.0 m/3 ft. 3 in.
	AF 18–35mm f/3.5–4.5D ED	24 mm	1.0 m/3 ft. 3 in.
	AF 20-35mm f/2.8D	24 mm	1.0 m/3 ft. 3 in.
FX	PC-E NIKKOR 24mm f/3.5D ED	24 mm	1.5 m/4 ft. 11 in.
-	AF-S NIKKOR 24–70mm f/2.8G ED	35 mm	1.0 m/3 ft. 3 in.
	AF-S VR 24-120mm f/3.5-5.6G ED	24 mm	1.0 m/3 ft. 3 in.
	AF-S 28–70mm f/2.8D ED	35 mm	1.5 m/4 ft. 11 in.

When used with the AF-S NIKKOR 14–24mm f/2.8G ED, the flash will be unable to light the entire subject at all ranges.

The built-in flash can also be used with Al-, Al-modified Nikkor, Nikon Series E and non-CPU lenses with a focal length of 24–300mm. Al 50–300mm f/4.5, modified Al 50–300mm f/4.5, and Al-S 50–300mm f/4.5 ED lenses must be used at a zoom position of 180mm or above, and Al 50–300mm f/4.5 ED lenses at a zoom position of 135mm or above.



Red-Eve Reduction

Lenses that block the subject's view of the AF-assist illuminator may interfere with red-eye reduction.

AF-Assist Illumination

The AF-assist illuminator can be used with lenses with focal lengths of 24-200 mm. AF-assist illumination is not available with the following lenses:

AF-S VR 200mm f/2G ED

AF-S VR 200-400mm f/4G ED

At ranges under 0.7 m (2ft. 4in.), the following lenses may block the AFassist illuminator and interfere with autofocus when lighting is poor:

- AF Micro 200mm f/4D FD
- AF-S VR 24–120mm f/3.5–5.6G ED AF-S NIKKOR 24–70mm f/2.8G FD
- AF Micro 70–180mm f/4.5–5.6D FD
 AF-S 28–70mm f/2.8D FD
- AF-S DX 17-55mm f/2.8G FD

- AF-S 17-35mm f/2.8D ED

At ranges under 1.1 m (3ft. 7in.), the following lenses may block the AFassist illuminator and interfere with autofocus when lighting is poor:

AF-S DX VR 55-200mm f/4-5.6G ED

At ranges under 1.5 m (4ft. 11in.), the following lenses may block the AFassist illuminator and interfere with autofocus when lighting is poor:

- AF-S VR 70–200mm f/2.8G FD
- AF-S VR 70–300mm f/4.5–5.6G FD
- AF-S 80-200mm f/2.8D FD
- AF-S NIKKOR 14-24mm f/2.8G ED
- AF 80-200mm f/2.8D FD

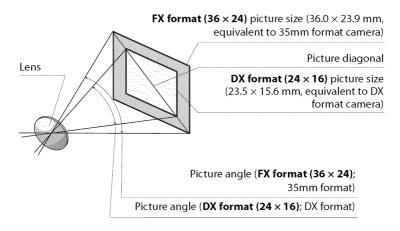
At ranges under 2.3 m (7ft. 7 in.), the following lenses may block the AFassist illuminator and interfere with autofocus when lighting is poor:

AF VR 80-400mm f/4.5-5.6D FD

Calculating Picture Angle

The D700 can be used with Nikon lenses for 35mm (135) format cameras. If **Auto DX crop** is on (the default setting) and a 35mm format lens is attached, the picture angle will be the same as a frame of 35mm film $(36.0 \times 23.9 \text{ mm})$; if a DX lens is attached, the picture angle will automatically be adjusted to $23.5 \times 15.6 \text{ mm}$ (DX format).

To choose a picture angle different from that of the current lens, turn **Auto DX crop** off and select **FX format (36 \times 24)** or **DX format (24 \times 16)**. If a 35 mm format lens is attached, the picture angle could be reduced by 1.5 \times by selecting **DX format (24 \times 16)**, exposing a smaller area.

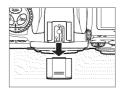


The **DX format** (24 × 16) picture angle is about 1.5 times smaller than the 35mm format picture angle. To calculate the focal length of lenses in 35mm format when **DX format** (24 × 16) is selected, multiply the focal length of the lens by about 1.5 (for example, the effective focal length of a 50mm lens in 35mm format would be 75 mm when **DX format** (24 × 16) is selected).



Optional Flash Units (Speedlights)

The D700 can be used with CLS-compatible flash units. Remove the accessory shoe cover when attaching optional flash units. The built-in flash will not fire when an optional flash unit is attached.



The Nikon Creative Lighting System (CLS)

Nikon's advanced Creative Lighting System (CLS) offers improved communication between the camera and compatible flash units for improved flash photography. The Creative Lighting System supports the following features:

- i-TTL flash control: Improved through-the-lens (TTL) flash control for use with CLS (see page 184). Flash level is set using monitor pre-flashes to measure the light reflected by the subject, ensuring optimal flash output.
- Advanced Wireless Lighting: Allows i-TTL flash control with remote wireless flash units.
- **FV lock** (pg. 192): Locks flash level at the metered value, allowing a series of photographs to be taken at the same flash level.
- Auto FP High-Speed Sync (pg. 306): Allows the flash to be used at the highest shutter speed supported by the camera, making it possible to choose the maximum aperture for reduced depth of field.



III CLS-Compatible Flash Units

The D700 can be used with the following CLS-compatible flash units: the SB-900, SB-800, SB-600, SB-400, SB-R200, and SU-800.

*The SB-900, SB-800, SB-600, SB-400, and SB-R200*The principal features of these flash units are listed below.

	Flash unit					
Feature		SB-900 1	SB-800	SB-600	SB-400	SB-R200 ²
Guide No. ³	ISO 100	34/111	38/125	30/98	21/69	10/32
duide No.	ISO 200	48/157	53/175	42/138	30/98	14/49
Auto power zo	om (mm)	17-200	24-105	24-85	4	5
Wide pane	l (mm)	12, 14, 17	14, 17	14	_	_
Head rotation		7° down, 90° up, 180° left and right	7 ° down, 90 ° up, 180 ° left, 90 ° right	90° up, 180° left, 90° right	90° up	60 ° down (toward lens light axis), 45 ° up (away from light axis)

¹ If a color filter is attached to the SB-900 when AUT0 or \$ (flash) is selected for white balance, the camera will automatically detect the filter and adjust white balance appropriately.

- 2 Controlled remotely with built-in flash in commander mode or using optional SB-900, SB-800 flash unit or SU-800 wireless Speedlight commander.
- 3 m/ft., 20 °C (68 °F); SB-900, SB-800 and SB-600 at 35 mm zoom head position; SB-900 with standard illumination.
- 4 27 mm zoom coverage.
- 5 24 mm zoom coverage.

SU-800 Wireless Speedlight Commander

When mounted on a CLS-compatible camera, the SU-800 can be used as a commander for remote SB-900, SB-800, SB-600, or SB-R200 flash units. The SU-800 itself is not equipped with a flash.



Guide Number

To calculate the range of the flash at full power, divide the Guide Number by the aperture. For example, at ISO 100 the SB-800 has a Guide Number of 38 m or 125 ft. (35 mm zoom head position); its range at an aperture of f/5.6 is $38 \div 5.6$ or about 6.8 meters (or in feet, $125 \div 5.6$ =approximately 23 ft. 7 in.). For each twofold increase in ISO sensitivity, multiply the Guide Number by the square root of two (approximately 1.4).

The following features are available with the SB-900, SB-800, SB-600, SB-400, SB-R200, and SU-800:

	Flash unit				A	dvanced	Wireles	s Lighti	ng
					Comm	ander	- S	Remote	
		SB-900			SB-900		SB-900		
Flashı	mode/feature	SB-800	SB-600	SB-400	SB-800	SU-800	SB-800	SB-600	SB-R200
i-TTL	i-TTL balanced fill-flash for digital SLR	✓ 2	✓ 2	✓ 3	~	~	~	~	~
AA	Auto aperture	✓ 4	_	_	15	✓ 5	√ 5	_	_
Α	Non-TTL auto	✓ 6	_		✓ 5	_	✓ 5	_	_
GN	Distance-priority manual	~	_	_	_	_	_	_	_
M	Manual	~	~	~	~	~	~	~	~
RPT	Repeating flash	~	_	_	~	V	~	V	_
Aut	to FP High-Speed Sync 7	~	~	_	~	V	~	~	~
	FV lock	~	~	~	~	~	~	~	~
AF-a	assist for multi-area AF 8	~	~	_	~	~	_	_	_
FI	ash Color Information Communication	~	~	~	~	_	_	_	_
REAR	Rear-curtain sync	V	~	~	~	~	~	V	~
•	Red-eye reduction	~	~	~	~	<u> </u>	<u> </u>	_	<u> </u>
	Auto zoom	~	~	_	~	_	_	_	_

- 1 Only available when SU-800 is used to control other flash units.
- 2 Standard i-TTL flash for digital SLR is used with spot metering or when selected with flash unit.
- 3 Standard i-TTL flash for digital SLR is used with spot metering.
- 4 Selected with flash unit. Non-TTL auto (A) selected automatically if non-CPU lens is attached without specifying lens data using **Non-CPU lens data**.
- 5 Auto aperture (AA) is used regardless of mode selected with flash unit. Non-TTL auto (A) selected automatically if non-CPU lens is attached without specifying lens data using Non-CPU lens data.
- 6 Selected with flash unit.
- 7 Select 1/320 s (Auto FP) or 1/250 s (Auto FP) for Custom Setting e1 (Flash sync speed, pg. 305).
- 8 CPU lens required.



Other Flash Units

The following flash units can be used in non-TTL auto and manual modes. If they are set to TTL, the camera shutter-release button will lock and no photographs can be taken.

Flash	Speedlight mode	SB-80DX, SB-28DX, SB-28, SB-26, SB-25, SB-24	SB-50DX	SB-30, SB-27 ¹ , SB-22S, SB-22, SB-20, SB-16B, SB-15	SB-23, SB-29 ² , SB-21B ² , SB-29S ²
A	Non-TTL auto	~	_	~	_
M	Manual	~	V	~	~
555	Repeating flash	~	_	_	_
REAR	Rear-curtain sync	V	V	~	V

¹ Flash mode is automatically set to TTL and shutter-release is disabled. Set flash unit to A (non-TTL auto flash).



² Autofocus is only available with AF-Micro lenses (60 mm, 105 mm, or 200 mm).

Notes on Optional Speedlights

Refer to the Speedlight manual for detailed instructions. If the Speedlight supports the Nikon Creative Lighting System, refer to the section on CLS-compatible digital SLR cameras. The D700 is not included in the "digital SLR" category in the SB-80DX, SB-28DX, and SB-50DX manuals.

i-TTL flash control can be used at ISO sensitivities between 200 and 6400. At values over 6400, the desired results may not be achieved at some ranges or aperture settings. If the flash-ready indicator blinks for about three seconds after a photograph is taken, the flash has fired at full power and the photograph may be underexposed.

The SB-900, SB-800, SB-600, and SB-400 provide red-eye reduction, while the SB-900, SB-800, SB-600, and SU-800 provide AF-assist illumination. With other Speedlights, the camera AF-assist illuminator is used for AF-assist illumination and red-eye reduction. When used with AF lenses with focal lengths of 17–135 mm, the SB-900 provides active AF-assist illumination for all focus points; note, however, that autofocus is available only with the following focus points:



When used with AF lenses with focal lengths of 24–105 mm, the SB-800, SB-600, and SU-800 provides active AF-assist illumination to assist autofocus for the following focus points:



In programmed auto, the maximum aperture (minimum f-number) is limited according to sensitivity (ISO equivalency), as shown below:

Maximum aperture at ISO equivalent of:						
200	400	800	1600	3200	6400	
5	5.6	7.1	8	10	11	

For each one-step increase in sensitivity (e.g., from 200 to 400), aperture is stopped down by half an f-stop. If the maximum aperture of the lens is smaller than given above, the maximum value for aperture will be the maximum aperture of the lens.

When an SC-series 17, 28, or 29 sync cable is used for off-camera flash photography, correct exposure may not be achieved in i-TTL mode. We recommend that you choose spot metering to select standard i-TTL flash control. Take a test shot and view the results in the monitor.

In i-TTL, use the flash panel or bounce adapter provided with the flash unit. Do not use other panels such as diffusion panels, as this may produce incorrect exposure.

Use Only Nikon Flash Accessories

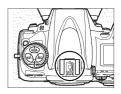
Use only Nikon Speedlights. Negative voltages or voltages over 250 V applied to the accessory shoe could not only prevent normal operation, but damage the sync circuitry of the camera or flash. Before using a Nikon Speedlight not listed in this section, contact a Nikon-authorized service representative for more information.

Flash Contacts

The D700 is equipped with an accessory shoe for attaching optional flash units directly to the camera and a sync terminal that allows flash units to be connected via a sync cable.

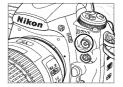
■ The Accessory Shoe

Use the accessory shoe to mount optional flash units directly on the camera without a sync cable (pg. 378). The accessory shoe is equipped with a safety lock for Speedlights with a locking pin, such as the SB-900, SB-800, SB-600 and SB-400.



■■ The Sync Terminal

A sync cable can be connected to the sync terminal as required. Do not connect another flash unit via a sync cable when performing rear-curtain sync flash photography with a flash unit mounted on the camera accessory shoe.



ISO Sensitivity

When auto ISO sensitivity control is on (pg. 108), ISO sensitivity will automatically be adjusted as required for optimal flash output when an optional SB-900, SB-800, SB-600, or SB-400 flash unit is attached. This may result in foreground subjects being underexposed in photographs taken with the flash at slow shutter speeds, in daylight, or against a bright background. In these cases, choose a flash mode other than slow sync or choose a larger aperture.

Other Accessories

Power sources

At the time of writing, the following accessories were available for the D700.

- Rechargeable Li-ion Battery EN-EL3e (pp. 32, 34): Additional EN-EL3e batteries are available from local retailers and Nikon service representatives. The EN-EL3e can be recharged using an MH-18a or MH-18 quick charger.
- Multi-Power Battery Pack MB-D10: The MB-D10 takes one rechargeable Nikon EN-EL3e, EN-EL4a, or EN-EL4 Li-ion battery or eight AA alkaline, NiMH, lithium, or nickelmanganese batteries. A BL-3 battery-chamber cover is required when using EN-EL4a or EN-EL4 batteries. It is equipped with a shutter-release button, AF-ON button, multi selector, and main- and sub-command dials for improved operation when taking photographs in portrait (tall) orientation. When attaching the MB-D10, remove contact cover for the MB-D10 from the camera.
- Quick Charger MH-18a (pg. 32): The MH-18a can be used to recharge EN-EL3e battery.
- AC Adapter EH-5a/EH-5: These AC adapters can be used to power the camera for extended periods.

Wireless Transmitter WT-4: Connects the camera to wireless and Ethernet networks. The photographs on the camera memory card can be viewed by computers on the same network or copied to a computer for long-term storage. The camera can also be controlled from any computer on the network using Camera Control Pro 2 (available separately). Note that the WT-4 requires an independent power source; an EH-6 AC adapter or a second EN-EL3e battery is recommended. See the WT-4 manual for details.

U

- DK-17C Diopter-Adjustment Viewfinder Lenses (with Safety Lock): To accommodate individual differences in vision, viewfinder lenses are available with diopters of –3, –2, 0, +1, +2 m⁻¹. Use diopter adjustment lenses only if the desired focus can not be achieved with the built-in diopter adjustment control (–3 to +1 m⁻¹). Test diopter adjustment lenses before purchase to ensure that the desired focus can be achieved.
- Magnifying Eyepiece DK-17M (with Safety Lock): The DK-17M magnifies the view through the viewfinder by approximately 1.2 × for greater precision when framing.
- Magnifier DG-2: The DG-2 magnifies the scene displayed in the viewfinder. Use for close-up photography, copying, telephoto lenses, and other tasks that call for added precision. DK-18 eyepiece adapter (available separately) required.

Viewfinder eyepiece accessories

- Eyepiece Adapter DK-18: The DK-18 is used when attaching the DG-2 magnifier or DR-3 right-angle viewing attachment to the D700.
- Antifog Finder Eyepiece DK-14, DK-17A: These viewfinder eyepieces prevent fogging in humid or cold conditions. The DK-17A is equipped with a safety lock.
- **Rubber Eyepiece Cup DK-19**: The DK-19 makes the image in the viewfinder easier to see, preventing eye fatigue.
- Right-Angle Viewing Attachment DR-5/DR-4: The DR-5 and DR-4 attach to the viewfinder eyepiece at a right angle, allowing the image in the viewfinder to be viewed from above when the camera is in the horizontal shooting position. The DR-5 can also magnify the view through the viewfinder by 2 × for greater precision when framing (note that the edges of the frame will not be visible when the view is magnified).

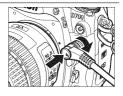


	• Nikon filters can be divided into three types: screw-in,
	slip-in, and rear-interchange. Use Nikon filters; filters
	manufactured by other makers may interfere with
	autofocus or electronic range finding.
	• The D700 can not be used with linear polarizing filters.
	Use the C-PL circular polarizing filter instead.
	• The NC and L37C filters are recommended for protecting
Filters	the lens.
	• To prevent moiré, use of a filter is not recommended
	when the subject is framed against a bright light, or when
	a bright light source is in the frame.
	• Center-weighted metering is recommended with filters
	with exposure factors (filter factors) over $1 \times (Y44, Y48,$
	Y52, O56, R60, X0, X1, C-PL, ND2S, ND4, ND4S, ND8, ND8S,
	ND400, A2, A12, B2, B8, B12).
	Water Guard WG-AS3: Covers the base of the optional SB-900
Water guards	flash unit to protect the camera accessory shoe from water
	droplets.
	 Nikon Speedlights SB-900, SB-800, SB-600, and SB-400
Optional flash	Nikon Wireless Remote Speedlight SB-R200
units	Wireless Speedlight Commander SU-800
	See page 378 for more information.
PC card	• PC Card Adapter EC-AD1: The EC-AD1 PC card adapter allows
adapters	Type I CompactFlash memory cards to be inserted in
auapieis	PCMCIA card slots.



• Capture NX 2: A complete photo editing package.
• Camera Control Pro 2: Control the camera remotely from a
computer and save photographs directly to the computer
hard disk.
• Image Authentication: Determine whether photographs
taken with image authentication (pg. 342) on have been
modified after shooting.
Note: Use the latest versions of Nikon software. Most Nikon
software offers an auto update feature when the computer is
connected to the Internet.
Body Cap: The body cap keeps the mirror, viewfinder
Body cap screen, and low-pass filter free of dust when a lens is not
in place.

Remote terminal accessories The D700 is equipped with a tenpin remote terminal for remote control and automatic photography. The terminal is provided with a cap, which protects the contacts when the terminal is not in use. The following



accessories can be used (all lengths are approximate):

Accessory	Description	Length
Remote Cord MC-22	Remote shutter release with blue, yellow, and black terminals for connection to a remote shutter-triggering device, allowing control via sound or electronic signals.	1 m (3 ft. 3 in.)
Remote Cord MC-30	reduce camera shake or keen the shutter	
Remote Cord MC-36	Remote shutter release; can be used for interval timer photography or to reduce camera shake or keep the shutter open during a time exposure. Equipped with back-lit control panel, shutter-release lock for use in bulb photography, and timer that beeps at one-second intervals.	85 cm (2 ft. 9 in.)
Extension Cord MC-21	Can be connected to ML-3 or MC-series 20, 22, 23, 25, 30, or 36. Only one MC-21 can be used at a time.	3 m (9 ft. 10 in.)
Connecting Cord MC-23	Connects two cameras for simultaneous operation.	40 cm (1 ft. 4 in.)
Adapter Cord MC-25	Ten-pin to two-pin adapter cord for connection to devices with two-pin terminals, including the MW-2 radio control set, MT-2 intervalometer, and ML-2 modulite control set.	20 cm (8 in.)
GPS Adapter Cord MC-35	Connects GPS devices to D700 via PC cable supplied by manufacturer of GPS device (pg. 213).	35 cm (14 in.)
Modulite Remote Control Set ML-3	Allows infrared remote control at ranges of up to 8 m (26 ft.).	-



■■ Approved Memory Cards

The following Type I CompactFlash memory cards have been tested and approved for use in the D700:

SanDisk	Extreme IV	SDCFX4	8 GB, 4 GB, 2 GB
	Extreme III	SDCFX3	8 GB, 4 GB, 2 GB, 1 GB
	Ultra II	SDCFH	8 GB, 4 GB, 2 GB, 1 GB
	Standard	SDCFB	4 GB, 2 GB, 1 GB
	Professional UDMA	300×	8 GB, 4 GB, 2 GB
Lovar Modia	Platinum II	80 ×	2 GB, 1 GB, 512 MB
Lexal Media		60 ×	4 GB
	Professional	133 × WA	8 GB, 4 GB, 2 GB, 1 GB

Other cards have not been tested. For more details on the above cards, please contact the manufacturer.

V

Caring for the Camera

Storage

When the camera will not be used for an extended period, replace the monitor cover, remove the battery, and store the battery in a cool, dry area with the terminal cover in place. To prevent mold or mildew, store the camera in a dry, well-ventilated area. Do not store your camera with naphtha or camphor moth balls or in locations that:

- are poorly ventilated or subject to humidities of over 60%
- are next to equipment that produces strong electromagnetic fields, such as televisions or radios
- are exposed to temperatures above 50 °C (122 °F) or below -10 °C (14 °F)

Cleaning

Camera body	Use a blower to remove dust and lint, then wipe gently with a soft, dry cloth. After using the camera at the beach or seaside, wipe off sand or salt with a cloth lightly dampened in distilled water and dry thoroughly. Important: Dust or other foreign matter inside the camera may cause damage not covered under warranty.
	These glass elements are easily damaged. Remove dust and lint with a blower. If using an aerosol blower, keep the can vertical to prevent the discharge of liquid. To remove fingerprints and other stains, apply a small amount of lens cleaner to a soft cloth and clean with care.
Monitor	Remove dust and lint with a blower. When removing fingerprints and other stains, wipe the surface lightly with a soft cloth or chamois leather. Do not apply pressure, as this could result in damage or malfunction.

Do not use alcohol, thinner, or other volatile chemicals.



The Low-Pass Filter

The image sensor that acts as the camera's picture element is fitted with a low-pass filter to prevent moiré. If you suspect that dirt or dust on the filter is appearing in photographs, you can clean the filter using the **Clean image sensor** option in the setup menu. The filter can be cleaned at any time using the **Clean now** option, or cleaning can be performed automatically when the camera is turned on or off.

II "Clean Now"

1 Place the camera base down.

Image sensor cleaning is most effective when the camera is placed base down as shown at right.



2 Display the Clean image sensor menu.

Highlight **Clean image sensor** in the setup menu and press ▶.





Image Dust Off

The Image Dust Off option in Capture NX 2 can not use dust off reference data recorded before image sensor cleaning is performed to retouch photographs taken after image sensor cleaning is performed. If you intend to use Image Dust Off with photographs recorded after image sensor cleaning is performed, we recommend that you record dust off reference data after cleaning the image sensor.

Image Sensor Cleaning

If the options described in this section are not sufficient to remove dust or other foreign objects from the image sensor, clean the sensor manually as described on page 395.



3 Select Clean now.

Highlight **Clean now** and press ▶. The message shown at right will be displayed while cleaning is in progress.







The message shown at right will be displayed when cleaning is complete.



■ "Clean at Startup/Shutdown"

1 Select Clean at startup/ shutdown.

Display the Clean image sensor menu as described in Step 2 on the previous page. Highlight Clean at startup/shutdown and press ▶.







2 Select an option.

Highlight one of the following options and press ®.





	Option	Description
© 0N	Clean at startup	The image sensor is automatically cleaned each time the camera is turned on.
© 0FF	Clean at shutdown	The image sensor is automatically cleaned during shutdown each time the camera is turned off.
⊕ %	Clean at startup & shutdown	The image sensor is cleaned automatically at startup and at shutdown.
8	Cleaning off (default)	Automatic image sensor cleaning off.

Image Sensor Cleaning

The following interrupt image sensor cleaning: raising the built-in flash, pressing the shutter-release, depth-of-field preview, or **AF-ON** button, or using FV lock.

Cleaning is performed by vibrating the image sensor. If dust can not be fully removed using the options in the **Clean image sensor** menu, clean the image sensor manually (pg. 395) or consult a Nikon-authorized service representative.

If image sensor cleaning is performed several times in succession, image sensor cleaning may be temporarily disabled to protect the camera's internal circuitry. Cleaning can be performed again after a short wait.



III Manual Cleaning

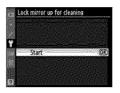
If foreign matter can not be removed from the low-pass filter using the **Clean image sensor** (pg. 392) option in the setup menu, the filter can be cleaned manually as described below. Note, however, that the filter is extremely delicate and easily damaged. Nikon recommends that the filter be cleaned only by Nikon-authorized service personnel.

1 Charge the battery or connect an AC adapter.

A reliable power source is required when inspecting or cleaning the low-pass filter. If the battery level is below (60 %), turn the camera off and insert a fully-charged EN-EL3e battery or connect an optional EH-5a or EH-5 AC adapter.

2 Select Lock mirror up for cleaning.

Remove the lens and turn the camera on. Highlight **Lock mirror up for cleaning** in the setup menu and press ▶ (note that this option is not available at battery levels of or below).



3 Press **®**.

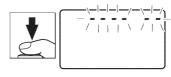
The message shown at right will be displayed in the monitor and a row of dashes will appear in the control panel and viewfinder. To restore normal operation without inspecting the low-pass filter, turn the camera off.





4 Raise the mirror.

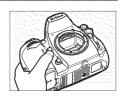
Press the shutter-release button all the way down. The mirror will be raised and the shutter curtain will open,



revealing the low-pass filter. The display in the viewfinder will turn off and the row of dashes in the control panel will blink.

5 Examine the low-pass filter.

Holding the camera so that light falls on the low-pass filter, examine the filter for dust or lint. If no foreign objects are present, proceed to Step 7.



6 Clean the filter.

Remove any dust and lint from the filter with a blower. Do not use a blower-brush, as the bristles could damage the filter. Dirt that can not be removed with a blower can only be removed by Nikon-authorized service personnel. Under no cir



authorized service personnel. Under no circumstances should you touch or wipe the filter.

7 Turn the camera off.

The mirror will return to the down position and the shutter curtain will close. Replace the lens or body cap.



Use a Reliable Power Source

The shutter curtain is delicate and easily damaged. If the camera powers off while the mirror is raised, the curtain will close automatically. To prevent damage to the curtain, observe the following precautions:

- Do not turn the camera off or remove or disconnect the power source while the mirror is raised.
- If the battery runs low while the mirror is raised, a beep will sound and
 the self-timer lamp will blink to warn that the shutter curtain will close
 and the mirror will be lowered after about two minutes. End cleaning or
 inspection immediately.

Foreign Matter on the Low-Pass Filter

Nikon takes every possible precaution to prevent foreign matter from coming into contact with the low-pass filter during production and shipping. The D700, however, is designed to be used with interchangeable lenses, and foreign matter may enter the camera when lenses are removed or exchanged. Once inside the camera, this foreign matter may adhere to the low-pass filter, where it may appear in photographs taken under certain conditions. To protect the camera when no lens is in place, be sure to replace the body cap provided with the camera, being careful to first remove all dust and other foreign matter that may be adhering to the body cap.

Should foreign matter find its way onto the low-pass filter, clean the filter as described above, or have the filter cleaned by authorized Nikon service personnel. Photographs affected by the presence of foreign matter on the filter can be retouched using Capture NX 2 (available separately; pg. 388) or the clean image options available in some third-party imaging applications.

Servicing the Camera and Accessories

The camera is a precision device and requires regular servicing. Nikon recommends that the camera be inspected by the original retailer or Nikon service representative once every one to two years, and that it be serviced once every three to five years (note that fees apply to these services). Frequent inspection and servicing are particularly recommended if the camera is used professionally. Any accessories regularly used with the camera, such as lenses or optional Speedlights, should be included when the camera is inspected or serviced.

V

Caring for the Camera and Battery: Cautions

Do not drop: The product may malfunction if subjected to strong shocks or vibration.

Keep dry: This product is not waterproof, and may malfunction if immersed in water or exposed to high levels of humidity. Rusting of the internal mechanism can cause irreparable damage.

Avoid sudden changes in temperature:

Sudden changes in temperature, such as occur when entering or leaving a heated building on a cold day, can cause condensation inside the device. To prevent condensation, place the device in a carrying case or plastic bag before exposing it to sudden changes in temperature.

Keep away from strong magnetic fields:

Do not use or store this device in the vicinity of equipment that generates strong electromagnetic radiation or magnetic fields. Strong static charges or the magnetic fields produced by equipment such as radio transmitters could interfere with the monitor, damage data stored on the memory card, or affect the product's internal circuitry.

Do not leave the lens pointed at the sun:

Do not leave the lens pointed at the sun or other strong light source for an extended period. Intense light may cause the image sensor to deteriorate or produce a white blur effect in photographs.



Cleaning: When cleaning the camera body, use a blower to gently remove dust and lint, then wipe gently with a soft, dry cloth. After using the camera at the beach or seaside, wipe off any sand or salt using a cloth lightly dampened in pure water and then dry the camera thoroughly. In rare instances, static electricity may cause the LCD displays to light up or go dark. This does not indicate a malfunction, and the display will soon return to normal.

The lens and mirror are easily damaged. Dust and lint should be gently removed with a blower. When using an aerosol blower, keep the can vertical to prevent discharge of liquid. To remove fingerprints and other stains from the lens, apply a small amount of lens cleaner to a soft cloth and wipe the lens carefully.

See "The Low-Pass Filter" (pp. 392, 395) for information on cleaning the low-pass filter.

Lens contacts: Keep the lens contacts clean.

Do not touch the shutter curtain: The shutter curtain is extremely thin and easily damaged. Under no circumstances should you exert pressure on the curtain, poke it with cleaning tools, or subject it to powerful air currents from a blower. These actions could scratch, deform, or tear the curtain.

The shutter curtain may appear to be unevenly colored, but this has no affect on pictures and does not indicate a malfunction.

Storage: To prevent mold or mildew, store the camera in a dry, well-ventilated area. If the product will not be used for an extended period, remove the battery to prevent leakage and store the camera in a plastic bag containing a desiccant. Do not, however, store the camera case in a plastic bag, as this may cause the material to deteriorate. Note that desiccant gradually loses its capacity to absorb moisture and should be replaced at regular intervals.

To prevent mold or mildew, take the camera out of storage at least once a month. Turn the camera on and release the shutter a few times before putting it away.

Store the battery in a cool, dry place. Replace the terminal cover before putting the battery away.



Turn the product off before removing or disconnecting the power source: Do not unplug the product or remove the battery while the product is on or while images are being recorded or deleted. Forcibly cutting power in these circumstances could result in loss of data or in damage to product memory or internal circuitry. To prevent an accidental interruption of power, avoid carrying the product from one location to another while the AC adapter is connected.

Notes on the monitor: The monitor may contain a few pixels that are always lit or that do not light. This is common to all TFT LCD monitors and does not indicate a malfunction. Images recorded with the product are unaffected.

Images in the monitor may be difficult to see in a bright light.

Do not apply pressure to the monitor, as this could cause damage or malfunction. Dust or lint on the monitor can be removed with a blower. Stains can be removed by wiping lightly with a soft cloth or chamois leather. Should the monitor break, care should be taken to avoid injury from broken glass and to prevent liquid crystal from the monitor touching the skin or entering the eyes and mouth.

Replace the monitor cover when transporting the camera or leaving it unattended.

Batteries: Dirt on the battery terminals can prevent the camera from functioning and should be removed with a soft, dry cloth before use.

Batteries may leak or explode if improperly handled. Observe the following precautions when handling batteries:

Turn the product off before replacing the battery.

The battery may become hot when used for extended periods.
Observe due caution when handling the battery.

Use only batteries approved for use in this equipment.

Do not expose the battery to flame or excessive heat.

After removing the battery from the camera, be sure to replace the terminal cover.

Charge the battery before use. When taking photographs on important occasions, ready a spare EN-EL3e battery and keep it fully charged. Depending on your location, it may be difficult to purchase replacement batteries on short notice.

On cold days, the capacity of batteries tends to decrease. Be sure the battery is fully charged before taking photographs outside in cold weather. Keep a spare battery in a warm place and exchange the two as necessary. Once warmed, a cold battery may recover some of its charge.

Continuing to charge the battery after it is fully charged can impair battery performance.

Used batteries are a valuable resource. Please recycle used batteries in accord with local regulations.



Troubleshooting

If the camera fails to function as expected, check the list of common problems below before consulting your retailer or Nikon representative. Refer to the page numbers in the right-most column for more information.

Display

Problem	Solution	Page
Viewfinder is out of focus.	Adjust viewfinder focus or use optional diopter adjustment lenses.	45
Viewfinder is dark.	Insert a fully-charged battery.	46
Displays turn off without warning.	Choose longer delays for Custom Setting c2 (Auto meter-off delay) or c4 (Monitor off delay).	296, 297
Unusual characters displayed in control panel.	See "A Note on Electronically- Controlled Cameras," below.	402
Displays in control panel or viewfinder are unresponsive and dim.	The response times and brightness of these displays varies with temperature.	_
Fine lines are visible around active focus point or display turns red when focus point is highlighted.	These phenomena are normal for this type of viewfinder and do not indicate a malfunction.	_

A Note on Electronically-Controlled Cameras

In extremely rare instances, unusual characters may appear in the control panel and the camera may stop functioning. In most cases, this phenomenon is caused by a strong external static charge. Turn the camera off, remove and replace the battery, and turn the camera on again, or, if you are using an AC adapter (available separately), disconnect and reconnect the adapter and turn the camera on again. In the event of continued malfunction, contact your retailer or Nikon-authorized service representative. Note that disconnecting the power source as described above may result in loss of any data not recorded to the memory card at the time the problem occurred. Data already recorded to the card will not be affected.

III Shooting

Problem	Solution	Page
Camera takes time to turn on.	Delete files or folders.	_
	Memory card is full or not inserted.	41, 47
Shutter-release disabled.	• CPU lens with aperture ring attached but aperture not locked at highest f-number. If FE E is displayed in control panel, select Aperture ring for Custom Setting f9 (Customize command dials) > Aperture setting to use lens aperture ring to adjust aperture.	327
	• Exposure mode S selected with but b selected for shutter speed.	118
	Rotate focus-mode selector to S or C.	72
Photos are out of focus.	Camera unable to focus using autofocus: use manual focus or focus lock.	78, 81
	• Shutter-release button can not be used to focus when Tripod is selected in live view mode. Use the AF-ON button to focus.	96



Problem	Solution	Page
Full range of shutter speeds not available.	Flash in use. Flash sync speed can be selected using Custom Setting e1 (Flash sync speed); when using optional SB-900, SB-800, SB-600, or SB-R200 Speedlight, choose 1/320 s (Auto FP) or 1/250 s (Auto FP) for full range of shutter speeds.	305
Focus does not lock when shutter-release button is pressed halfway.	Camera is in focus mode C : use AE-L/ AF-L button to lock focus.	79
Image size can not be changed.	Image quality set to NEF (RAW).	64
***************************************	Unlock focus selector lock.	76
	Auto-area AF selected for focus mode: choose another mode.	74
Can not select focus point	• The camera is in playback mode.	217
carrior select rocas point	• The camera is in menu operation.	259
	Press shutter-release button halfway to turn monitor off or activate exposure meters.	48
Camera is slow to record photos.	Turn long exposure noise reduction off.	277
Photos not recorded in live view mode.	 Sound of mirror clicking down when shutter-release button was pressed halfway in hand-held mode was mistaken for sound of shutter. Unless Release is chosen for Custom Setting a2 (AF-S priority selection), shutter release is disabled if camera is unable to focus when focus mode \$ is selected in hand-held mode. 	95 95, 284



Problem	Solution	Page
Randomly-spaced bright pixels ("noise") appear in photos.	 Choose lower ISO sensitivity or turn high ISO noise reduction on. Shutter speed is slower than 1 s: use long exposure noise reduction. 	106, 278 277
	• Camera is in focus mode C .	72
	Center focus point is not selected for single-point AF or dynamic- area AF.	74
AF-assist illuminator does not light.	Off selected for Custom Setting a9 (Built-in AF-assist illuminator).	290
	Illuminator has turned off automatically. Illuminator may become hot with continued use; wait for lamp to cool down.	_
Photos are blotched or	Clean lens.	_
smeared.	• Clean low-pass filter.	392
Colors are unnatural.	Adjust white balance to match light source.	140
Colors die utiliatural.	Adjust Set Picture Control settings.	160



Problem	Solution	Page
Can not measure white balance.	Subject is too dark or too bright.	151
Image can not be selected as source for preset white balance.	Image was not created with D700.	154
White balance bracketing unavailable.	NEF (RAW) or NEF+JPEG image quality option selected for image quality.	64
	Multiple exposure mode is in effect.	202
Effects of Picture Control differ from image to image.	A (auto) is selected for sharpening, contrast, or saturation. For consistent results over a series of photographs, choose a setting other than A (auto).	166
Metering can not be	Autoexposure lock is in effect.	126
changed.	• Camera is in live view mode.	100
Exposure compensation can not be used.	Choose exposure mode P, 5, or A.	128
Reddish areas appear in photos.	Reddish areas and uneven textures may appear in long time-	
Textures are uneven.	exposures. Turn long exposure noise reduction on when shooting at shutter speeds of "bulbb".	277
Only one shot taken each time shutter-release button is pressed in continuous shooting mode.	Lower built-in flash.	187



■■ Playback

Problem	Solution	Page
Flashing areas appear in images	Dross A or W to shoose photo	
Shooting data appear on images	Press ▲ or ▼ to choose photo information displayed, or change settings for Display mode .	220, 264
A graph appears during playback.	,,,,,,,, .	
NEF (RAW) image is not played back.	Photo was taken at image quality of NEF + JPEG.	66
Some photos are not displayed during playback.	Select All for Playback folder .	263
#T-11# (Select On for Rotate tall.	265
"Tall" (portrait) orientation photos are displayed in	• Photo was taken with Off selected for Auto image rotation .	336
"wide" (landscape)	Photo is displayed in image review.	219
orientation.	Camera was pointed up or down when photo was taken.	336
Can not delete photo.	Photo is protected: remove protection.	235
Message is displayed stating that no images are available for playback.	Select All for Playback folder .	263
Can not change print order.	Memory card is full: delete photos.	47
Can not select photo for printing.	Photo is in NEF (RAW) format. Transfer to computer and print using supplied software or Capture NX 2.	243
Photo is not displayed on TV.	Choose correct video mode.	333
Photo is not displayed on high-definition video device.	Confirm that HDMI cable (available separately) is connected.	257



Problem	Solution	Page
NEF (RAW) photos not displayed in Capture NX.	Update to Capture NX 2.	388
Image Dust Off option in Capture NX 2 does not have desired effect.	Image sensor cleaning changes the position of dust on the low-pass filter. Dust off reference data recorded before image sensor cleaning is performed can not be used with photographs taken after image sensor cleaning is performed. Dust off reference data recorded after image sensor cleaning is performed can not be used with photographs taken before image sensor cleaning is performed.	337
Computer displays NEF (RAW) images differently from camera.	Third-party software does not display effects of Picture Controls, active D-lighting, or vignette control. Use Capture NX 2 (available separately).	_
Can not copy picture to computer using Nikon Transfer.	The camera is not compatible with Windows 2000 Professional. Use card reader to copy pictures from memory card.	_

II Miscellaneous

Problem	Solution	Page
Date of recording is not correct.	Set camera clock.	38
Menu item can not be selected.	Some options are not available at certain combinations of settings or when no memory card is inserted. Note that Battery info option is not available when camera is powered by an optional AC adapter.	340



Error Messages

This section lists the indicators and error messages that appear in the viewfinder, control panel, and monitor.

Indicator				
Control panel	View- finder	Problem	Solution	Page
FE E (blinks)		Lens aperture ring is not set to minimum aperture.	t to minimum aperture (largest	
-	-	Low battery.	Ready a fully-charged spare battery.	46
(blinks)	(blinks)	 Battery exhausted. Battery can not be used. An extremely exhausted rechargeable Li-ion battery or a third-party battery is inserted either in the camera or in the optional MB-D10 battery pack. 	 Recharge or replace battery. Contact Nikon-authorized service representative. Replace the battery, or recharge the battery if the rechargeable Li-ion battery is exhausted. 	xxiii, 32, 34



Indicator				
Control panel	View- finder	Problem	Solution	Page
(blinks)	_	Camera clock is not set.	Set camera clock.	38
ΔF		No lens attached, or non-CPU lens attached without specifying maximum aperture. Aperture shown in stops from maximum aperture.	Aperture value will be displayed if maximum aperture is specified.	210
_	► ◀ (blinks)	Camera unable to focus using autofocus.	Focus manually.	81
×:			Use a lower ISO sensitivity	106
		Subject too bright; photo will be	• In exposure mode: P Use optional ND filter	387
		overexposed.	5 Increase shutter speed	118
			A Choose a smaller aperture (larger f-number)	119



Indicator				
Control panel	444	Problem	Solution	Page
			Use a higher ISO sensitivity	106
		Subject too dark; photo	In exposure mode:	
			P Use flash	185
Lo		will be underexposed.	5 Lower shutter speed	118
			A Choose a larger aperture (smaller f-number)	119
عنده (blinks)		ង ខេង selected in exposure mode 5.	Change shutter speed or select manual exposure mode.	118, 121

Indicator				
Control panel	View- finder	Problem	Solution	Page
(blinks)	\$ (blinks)	Optional flash unit that does not support i-TTL flash control attached and set to TTL.	Change flash mode setting on optional flash unit.	381
	\$ (blinks)	If indicator blinks for 3s after flash fires, photo may be underexposed.	Check photo in monitor; if underexposed, adjust settings and try again.	427
Full (blinks)	Ful (blinks)	Memory insufficient to record further photos at current settings, or camera has run out of file or folder numbers.	 Reduce quality or size. Delete photographs. Insert new memory card. 	64, 69 262 41
Err (blinks)		Camera malfunction.	Release shutter. If error persists or appears frequently, consult Nikon-authorized service representative.	



Indicator				
Monitor	Control panel	Problem	Solution	Page
No memory card.	(- E -)	Camera cannot detect memory card.	Turn camera off and confirm that card is correctly inserted.	41
This memory		• Error accessing memory card.	Use Nikon- approved card.	390
card cannot be used. Card may be damaged. Insert	([HR) (blinks)		Check that contacts are clean. If card is damaged, contact retailer or Nikon representative.	_
another card.		Unable to create new folder.	Delete files or insert new memory card.	41,262



Indicator				
Monitor	Control panel	Problem	Solution	Page
This card is not formatted. Format the card.	For (blinks)	Memory card has not been formatted for use in camera.	Format memory card or insert new memory card.	41,43
Folder contains no images.	_	No images on memory card or in folder(s) selected for playback.	Select folder containing images from Playback folder menu or insert different memory card.	41, 263
All images are hidden.	_	All photos in current folder are hidden.	No images can be played back until another folder has been selected or Hide image used to allow at least one image to be displayed.	263
File does not contain image data.	_	File has been created or modified using a computer or different make of camera, or file is corrupt.	File can not be played back on camera.	_



Indicator Control Monitor panel				
		Problem	Solution	Page
Cannot select this file.	_	Memory card does not contain images that can be retouched.	Images created with other devices can not be retouched.	350
Check printer.	_	Printer error.	Check printer. To resume, select Continue (if available).	244*
Check paper. —		Paper in printer is not of selected size.	LCORRECT SIZE AND SELECT	
Paper jam.	_	Paper is jammed in printer.	Clear jam and select Continue .	244*
Out of paper.	_	Printer is out of paper.	Insert paper of selected size and select Continue .	244*



Indicate Monitor	r Control panel	Problem	Solution	Page
Check ink supply.	_	Ink error.	Check ink. To resume, select Continue .	244*
Out of ink.	_	Printer is out of ink.	Replace ink and select Continue .	244*

^{*} See printer manual for more information.



Appendix

The	Δηι	pendix	covers	the	foll	lowing	tonics
me	ΑPI	pendix	covers	uie	101	iowing	topics

Defaults	pg. 418
Memory Card Capacity	pg. 423
• Exposure Program	pg. 426
• Aperture, Sensitivity, and Flash Range	pg. 427



Defaults

The following defaults are restored either with a two-button reset or using **Reset shooting menu** or **Reset custom settings**.

■ Defaults Restored with a Two-Button Reset (pg. 196)¹

	Option	Default		
	ISO sensitivity (pg. 106)	200		
	lmage quality (pg. 64)	JPEG normal		
Shooting	lmage size (pg. 69)	L		
menu ²	White balance (pg. 140)	Auto		
	Fine tuning (pg. 143)	Off		
	Choose color temp. (pg. 147)	5000 K		
	Focus point (pg. 76)	Center		
	Exposure mode (pg. 114)	Programmed auto		
	Flexible program (pg. 117)	Off		
	AE lock hold (pg. 126)	Off		
Other	Exposure compensation (pg. 128)	Off		
settings	Flash compensation (pg. 190)	Off		
	Bracketing (pg. 130)	Off		
	Flash mode (pg. 188)	Front-curtain sync		
	FV lock (pg. 192)	Off		
	Multiple exposure (pg. 198)	Off		

Multiple exposure (pg. 198)

 If the current Picture Control has been modified, existing settings for the Picture Control will also be restored.



² Only the settings in the bank currently selected using the **Shooting menu bank** option will be reset (pg. 269). Settings in all other banks are unaffected.

■ Defaults Restored with Reset Shooting Menu (pg. 271)¹

Derduits hestored with heset shooting we			
Option	Default		
File naming (pg. 274)	DSC		
Image quality (pg. 64)	JPEG normal		
Image size (pg. 69)	Large		
Image area (pg. 58)			
Auto DX crop (pg. 58)	On		
Choose image area (pg. 59)	FX format (36 x 24)		
JPEG compression (pg. 67)	Size priority		
NEF (RAW) recording (pg. 67)			
Type (pg. 67)	Lossless compressed		
NEF (RAW) bit depth (pg. 68)	12-bit		
White balance (pg. 140)	Auto		
Fine tuning (pg. 143)	Off		
Choose color temp. (pg. 147)	5000K		
Set Picture Control (pg. 160)	Standard		
Color space (pg. 181)	sRGB		
Active D-lighting (pg. 180)	Off		
Vignette control (pg. 276)	Normal		
Long exp. NR (pg. 277)	Off		
High ISO NR (pg. 278)	Normal		
ISO sensitivity settings (pg. 106)	\		
ISO sensitivity (pg. 106)	200		
ISO sensitivity auto control (pg. 108)	Off		
Live view	······································		
Live view mode (pg. 90)	Hand-held		
Release mode (pg. 91)	Single frame		
Multiple exposure (pg. 198) Reset ²			
Interval timer shooting (pg. 203)	Reset ³		

- 1 With the exception of Multiple exposure and Interval timer shooting, only settings in the current shooting menu bank will be reset.
- 2 Applies to all banks. **Reset shooting menu** can not be selected while shooting is in progress.
- 3 Applies to all banks. Shooting ends when reset is performed.



■ Defaults Restored with Reset Custom Settings (pg. 282)*

0	Option	Default				
a1	AF-C priority selection (pg. 283)	Release				
	AF-S priority selection (pg. 284)	Focus				
a3	Dynamic AF area (pg. 285)	9 points				
a4	Focus tracking with lock-on (pg. 287)	Normal				
	AF activation (pg. 287)	Shutter/AF-ON				
a6	AF point illumination (pg. 288)	Auto				
a7	Focus point wrap-around (pg. 288)	No wrap				
a8	AF point selection (pg. 289)	51 points				
	Built-in AF-assist illuminator (pg. 290)	On				
a10	AF-ON for MB-D10 (pg. 291)	AF-ON				
b1	ISO sensitivity step value (pg. 292)	1/3 step				
b2	EV steps for exposure cntrl. (pg. 292)	1/3 step				
b3	Exp comp/fine tune (pg. 292)	1/3 step				
b4	b4 Easy exposure compensation (pg. 293) Off					
b5	Center-weighted area (pg. 294)	Ø 12 mm				
	Fine tune optimal exposure (pg. 294)					
b6	Matrix metering	0				
DO	Center-weighted	0				
	Spot metering	0				
c1	Shutter-release button AE-L (pg. 296)	Off				
c2	Auto meter-off delay (pg. 296)	6 s				
c3	Self-timer delay (pg. 297)	10 s				
	Monitor off delay (pg. 297)					
	Playback	10 s				
c4	Menus	20 s				
	Shooting info display	10 s				
	Image review	4 s				

^{*} Only the settings in the bank currently selected using the **Custom setting bank** option will be reset (pg. 282). Settings in all other banks are unaffected.

	Option	Default
d1	Beep (pg. 298)	High
d2	Viewfinder grid display (pg. 298)	Off
d3	Screen tips (pg. 298)	On
d4	CL mode shooting speed (pg. 299)	3 fps
d5	Max. continuous release (pg. 299)	100
d6	File number sequence (pg. 300)	On
d7	Shooting info display (pg. 301)	Auto
d8	LCD illumination (pg. 302)	Off
d9	Exposure delay mode (pg. 302)	Off
d10	MB-D10 battery type (pg. 302)	LR6 (AA alkaline)
d11	Battery order (pg. 304)	Use MB-D10 batteries first
e1	Flash sync speed (pg. 305)	1/250 s
e2	Flash shutter speed (pg. 308)	1/60 s
е3	Flash cntrl for built-in flash (pg. 309)	TTL
e4	Modeling flash (pg. 315)	On
e5	Auto bracketing set (pg. 315)	AE & flash
e6	Auto bracketing (Mode M) (pg. 316)	Flash/speed
e7	Bracketing order (pg. 317)	MTR > under > over



China.	Option	Default				
f1	★ switch (pg. 318)	LCD backlight (🔆)				
	Multi selector center button (pg. 318)	***************************************				
f2	Shooting mode	Select center focus point				
	Playback mode	Thumbnail on/off				
	Multi selector (pg. 319)	Do nothing				
f4	Photo info/playback (pg. 320)	Info 🏶 /Playback 🚱				
	Assign FUNC. button (pg. 320)	5				
f5	FUNC. button press	None				
	FUNC. button+dials	Auto bracketing				
	Assign preview button (pg. 324)					
f6	Preview button press	Preview				
	Preview+command dials	None				
	Assign AE-L/AF-L button (pg. 325)					
f7	AE-L/AF-L button press	AE/AF lock				
	AE-L/AF-L+command dials	None				
	Shutter spd & aperture lock (pg. 326)					
f8	Shutter speed lock	Off				
	Aperture lock	Off				
	Customize command dials (pg. 326)					
	Reverse rotation (pg. 326)	No				
f9	Change main/sub (pg. 326)	Off				
	Aperture setting (pg. 327)	Sub-command dial				
	Menus and playback (pg. 327)	Off				
f10	Release button to use dial (pg. 328)	No				
f11	No memory card? (pg. 329)	Enable release				
f12	Reverse indicators (pg. 330)	4				



Memory Card Capacity

The following table shows the approximate number of pictures that can be stored on a 2 GB SanDisk Extreme IV (SDCFX4) card at different image quality, image size, and image area settings.

III FX Format (36 \times 24) Image Area ¹

Image quality	lmage size	File size ²	No. of images ²	Buffer capacity ³
NEF (RAW), Lossless compressed, 12-bit	_	13.3 MB	100	23
NEF (RAW), Lossless compressed, 14-bit	_	16.3 MB	77	20
NEF (RAW), Compressed, 12-bit	_	11.0 MB	138	26
NEF (RAW), Compressed, 14-bit	_	13.8 MB	114	23
NEF (RAW), Uncompressed, 12-bit	_	18.8 MB	100	19
NEF (RAW), Uncompressed, 14-bit	_	24.7 MB	77	17
	L	35.9 MB	53	17
TIFF (RGB)	M	20.7 MB	95	20
	S	10.0 MB	211	28
	L	5.7 MB	279	100
JPEG fine ⁴	M	3.2 MB	496	100
	S	1.4 MB	1000	100
	L	2.9 MB	548	100
JPEG normal 4	M	1.6 MB	976	100
	S	0.7 MB	2000	100
	L	1.4 MB	1000	100
JPEG basic ⁴	M	0.8 MB	1800	100
	S	0.4 MB	3900	100



III DX Format (24 \times 16) Image Area ¹

Image quality	lmage size	File size ²	No. of images ²	Buffer capacity ³
NEF (RAW), Lossless	_	5.7 MB	229	65
compressed, 12-bit		3.7 1010	229	0.5
NEF (RAW), Lossless	_	7.0 MB	177	46
compressed, 14-bit		7.0 1010	1,,,	10
NEF (RAW),	_	4.7 MB	312	95
Compressed, 12-bit		1.7 1010	312	
NEF (RAW),	_	6.0 MB	260	63
Compressed, 14-bit		0.0 11,0		
NEF (RAW),				
Uncompressed,	_	8.1 MB	229	39
12-bit				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
NEF (RAW),				
Uncompressed,	_	10.7 MB	177	31
14-bit				
	L	15.3 MB	124	23
TIFF (RGB)	M	8.8 MB	220	29
	S	4.3 MB	480	59
	L	2.5 MB	637	100
JPEG fine ⁴	M	1.4 MB	1100	100
	S	0.6 MB	2400	100
	L	1.2 MB	1200	100
JPEG normal 4	M	0.7 MB	2000	100
	S	0.3 MB	4400	100
	L	0.6 MB	2400	100
JPEG basic ⁴	M	0.3 MB	3900	100
	S	0.2 MB	7800	100

- 1 If **Auto DX crop** is selected for **Image area**, DX-format images will be recorded with DX lenses, FX-format images with other lenses.
- 2 All figures are approximate. File size varies with scene recorded.
- 3 Maximum number of exposures that can be stored in memory buffer. Drops if **Optimal quality** is selected for **JPEG compression**, ISO sensitivity is set to **X C.3** or higher, **High ISO NR** is on when auto ISO sensitivity control is on or ISO sensitivity is set to 2000 or higher, or long exposure noise reduction, active D-lighting, or image authentication is on.
- 4 Figures assume **JPEG compression** is set to **Size priority**. Selecting **Optimal quality** increases the file size of JPEG images; number of images and buffer capacity drop accordingly.



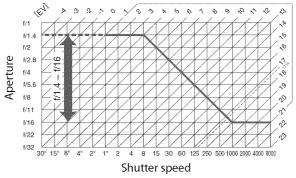
d5—Max. Continuous Release (pg. 299)

The maximum number of photographs that can be taken in a single burst can be set to any amount between 1 and 100.

Exposure Program

The exposure program for programmed auto is shown in the following graph:

ISO 200; lens with maximum aperture of f/1.4 and minimum aperture of f/16 (e.g., AF 50mm f/1.4 D)



The maximum and minimum values for EV vary with ISO sensitivity; the above graph assumes an ISO sensitivity of ISO 200 equivalent. When matrix metering is used, values over $17^{1/3}$ EV are reduced to $17^{1/3}$ EV.

Aperture, Sensitivity, and Flash Range

The range of the built-in flash varies with sensitivity (ISO equivalency) and aperture.

Aperture at ISO equivalent of					*	Range	
200	400	800	1600	3200	6400	m	ft.
1.4	2	2.8	4	5.6	8	1.0-8.5	3ft. 3in.–27ft. 11in.
2	2.8	4	5.6	8	11	0.7-6.1	2ft. 4 in.–20ft.
2.8	4	5.6	8	11	16	0.6-4.2	2ft.–13ft. 9in.
4	5.6	8	11	16	22	0.6-3.0	2ft9ft. 10in.
5.6	8	11	16	22	32	0.6-2.1	2ft.–6ft. 11in.
8	11	16	22	32	_	0.6-1.5	2ft.–4ft. 11in.
11	16	22	32	_	_	0.6-1.1	2ft3ft. 7in.
16	22	32	_	_	_	0.6-0.8	2ft2ft. 7in.

The built-in flash has a minimum range of 0.6 m (2 ft.).

In programmed auto exposure mode (mode P), the maximum aperture (minimum f-number) is limited according to ISO sensitivity, as shown below:

Maximum aperture at ISO equivalent of:					
200	400	800	1600	3200	6400
3.5	4	5	5.6	7.1	8

For each one-step increase in sensitivity (e.g., from 200 to 400), aperture is stopped down by half an f-stop. If the maximum aperture of the lens is smaller than given above, the maximum value for aperture will be the maximum aperture of the lens.



Specifications

■ Nikon D700 Digital Camera

Туре			
Туре	Single-lens reflex digital camera		
Lens mount	Nikon F mount (with AF coupling and AF contacts)		
Effective pixels			
Effective pixels	12.1 million		
lmage sensor			
lmage sensor	36.0 × 23.9 mm CMOS sensor (Nikon FX format)		
Total pixels	12.87 million		
Dust-reduction system	Image sensor cleaning, Image Dust Off reference data (optional Capture NX 2 software required)		
Storage			
lmage size (pixels)	• FX format (36 × 24) image area		
	$4,256 \times 2,832 \text{ (L)}$ $3,184 \times 2,120 \text{ (M)}$ $2,128 \times 1,416 \text{ (S)}$		
	● DX format (24 × 16) image area		
***************************************	2,784 × 1,848 (L) 2,080 × 1,384 (M) 1,392 × 920 (S)		
File format	NEF (RAW): 12 or 14 bit, lossless compressed, compressed, or uncompressed		
	• TIFF (RGB)		
	• JPEG: JPEG-Baseline compliant with fine (approx. 1:4),		
	normal (approx. 1 : 8), or basic (approx. 1 : 16)		
	compression (Size priority); Optimal quality		
	compression available		
	• NEF (RAW)+JPEG: Single photograph recorded in both NEF (RAW) and JPEG formats		
Picture Control System	Can be selected from Standard, Neutral, Vivid,		
	Monochrome; storage for up to nine custom Picture		
	Controls		
Media	Type I CompactFlash memory cards (UDMA compliant)		
File system	DCF (D esign Rule for C amera F ile System) 2.0, DPOF		
	(Digital Print Order Format), Exif 2.21 (Exchangeable Image File Format for Digital Still Cameras), PictBridge		



Viewfinder	
Viewfinder	Eye-level pentaprism single-lens reflex viewfinder
Frame coverage	Approx. 95% horizontal and 95% vertical
Magnification	Approx. $0.72 \times (50 \text{-mm f/1.4 lens at infinity, } -1.0 \text{ m}^{-1})$
Eyepoint	²⁵ 18 mm (–1.0 m ^{–1})
Diopter adjustment	-3-+1 m ⁻¹
Focusing screen	Ships with type B BriteView Clear Matte Mark VI screen with AF area brackets (framing grid can be displayed)
Reflex mirror	Quick return
Depth-of-field preview	When depth of field preview button is pressed, lens aperture is stopped down to value selected by user (A and A modes) or by camera (P and 5 modes)
Lens aperture	Instant return, electronically controlled
Lens	
Compatible lenses	 DX AF Nikkor: All functions supported Type G or D AF Nikkor: All functions supported (PC Micro-Nikkor does not support some functions). IX Nikkor lenses not supported. Other AF Nikkor: All functions supported except 3D color matrix metering II. Lenses for F3AF not supported. Al-P Nikkor: All functions supported except 3D color matrix metering II Non-CPU: Can be used in exposure modes F1 and F1; electronic rangefinder can be used if maximum aperture is f/5.6 or faster; color matrix metering and aperture value display supported if user provides lens data (Al lenses only)
Shutter	The street is all the controlled control to a large and the second street is a large and the second
Type Speed	Electronically-controlled vertical-travel focal-plane shutter 1/8000 – 30 s in steps of 1/3, 1/2, or 1 EV, bulb, X250
Flash sync speed	$X = \frac{1}{250}$ s; synchronizes with shutter at $\frac{1}{320}$ s or slower
	(flash range drops at speeds between $\frac{1}{1250}$ and $\frac{1}{320}$ s)
Release	
Release mode	S (single frame), C (continuous low speed), C (continuous high speed), ((live view), ((self-timer), MUP (mirror up)



Release	
Frame advance rate	• With EN-EL3e: From 1 to up to 5 fps (CL); up to 5 fps (CH)
	With optional MB-D10 multi-power battery pack and EN-EL4a/EN-
	EL4 or AA batteries or with optional EH-5a/EH-5 AC adapter: From 1
	to up to 7 fps (CL); up to 8 fps (CH)
Self-timer	Can be selected from 2, 5, 10, and 20 s duration
Exposure	
Metering	TTL exposure metering using 1,005-segment RGB sensor
Metering method	• Matrix: 3D color matrix metering II (type G and D lenses);
	color matrix metering II (other CPU lenses); color matrix
	metering available with non-CPU lenses if user provides
	lens data
	• Center-weighted : Weight of 75% given to 8, 12, 15, or
	20-mm circle in center of frame, or weighting based on
	average of entire frame (non-CPU lenses use 12-mm
	circle or average of entire frame)
	• Spot: Meters 4-mm circle (about 1.5% of frame) centered
	on selected focus point (on center focus point when non-
	CPU lens is used)
Range (ISO 100, f/1.4 lens,	
20 °C/68 °F)	• Spot metering: 2–20 EV
Exposure meter coupling	Combined CPU and Al
Exposure mode	Programmed auto with flexible program (P); shutter-
	priority auto (5); aperture priority auto (7); manual (7)
Exposure compensation	–5 – +5 EV in increments of 1/3, 1/2, or 1 EV
Exposure bracketing	2-9 frames in steps of 1/3, 1/2, 2/3, or 1 EV
Flash bracketing	2-9 frames in steps of 1/3, 1/2, 2/3, or 1 EV
White balance bracketing	2-9 frames in steps of 1, 2, or 3
Exposure lock	Luminosity locked at detected value with AE-L/AF-L button



Exposure	
ISO sensitivity	ISO 200 – 6400 in steps of $1/3$, $1/2$, or 1 EV. Can also be set to
(Recommended Exposure	approx. 0.3, 0.5, 0.7, or 1 EV (ISO 100 equivalent) below ISO
index)	200 or to approx. 0.3, 0.5, 0.7, 1 EV, or 2 EV (ISO 25600
	equivalent) above ISO 6400.
Active D-Lighting	Can be selected from Auto , High , Normal , or Low
Focus	
Autofocus	Nikon Multi-CAM 3500FX autofocus module with TTL
	phase detection, fine-tuning, 51 focus points (including 15
	cross-type sensors), and AF-assist illuminator (range
	approx. 0.5-3 m/1 ft. 8 in9 ft. 10 in.)
Detection range	–1 – +19 EV (ISO 100, 20 °C/68 °F)
Lens servo	• Autofocus: Single-servo AF (\$); continuous-servo AF (\$);
	predictive focus tracking automatically activated
	according to subject status
	Manual (M): Electronic range finding supported
Focus point	Can be selected from 51 or 11 focus points
AF-area mode	Single-point AF, dynamic-area AF, auto-area AF
Focus lock	Focus can be locked by pressing shutter-release button
	halfway (single-servo AF) or by pressing AE-L/AF-L button
Flash	
Built-in flash	Manual pop-up with button release and a Guide Number
	of 17/56 (m/ft, ISO 200, 20 °C/68 °F; GN at ISO 100 is 12/39)
	or 18/59 in manual mode (m/ft, ISO 200, 20 °C/68 °F; GN at
	ISO 100 is 13/43)



Flash	
Flash control	• TTL: i-TTL balanced fill-flash and standard i-TTL flash for digital SLR using 1,005-segment RGB sensor are available with built-in flash and SB-900, SB-800, SB-600, or SB-400 • Auto aperture: Available with SB-900, SB-800 and CPU lens • Non-TTL auto: Supported flash units include SB-900, SB-800, SB-28, SB-27, and SB-22s
Flash mode	Distance-priority manual: Available with SB-900 and SB-800 Front curtain sync, slow sync, rear-curtain sync, red-eye reduction, red-eye reduction with slow sync
Flash compensation	-3 - +1 EV in increments of 1/3, 1/2, or 1 EV
Flash-ready indicator	Lights when built-in flash or Speedlight such as SB-900, SB-800, SB-600, SB-400, SB-80DX, SB-28DX, or SB-50DX is fully charged; blinks after flash is fired at full output
Accessory shoe	Standard ISO 518 hot-shoe contact with safety lock
Nikon Creative Lighting System (CLS)	Advanced Wireless Lighting supported with built-in flash, SB-900, SB-800, or SU-800 as commander and SB-900, SB-800, SB-600, or SB-R200 as remotes; Auto FP High-Speed Sync and modeling illumination supported with all CLS-compatible flash units except SB-400; Flash Color Information Communication and FV lock supported with all CLS-compatible flash units
Sync terminal	Standard ISO 519 terminal
White balance	
White balance	Auto (TTL white-balance with main image sensor and 1,005 segment RGB sensor); 7 manual modes with fine-tuning; color temperature setting
Live view	
Modes	Hand-held, tripod
Autofocus	Hand-held: Phase-detection AF with 51 focus points (including 15 cross-type sensors) Tripod: Contrast-detect AF anywhere in frame



Monitor	
Monitor	3-in., 920k-dot (VGA), low-temperature polysilicon TFTLCD with 170° viewing angle, 100% frame coverage, and brightness adjustment
Playback	
Playback	Full-frame and thumbnail (four or nine images) playback with playback zoom, slide show, highlights, histogram display, auto image rotation, and image comment (up to 36 characters)
Interface	
USB	Hi-Speed USB
Video output	Can be selected from NTSC and PAL
HDMI output	Type C mini-pin HDMI connector; camera monitor turns off when HDMI cable is connected
Ten-pin remote terminal	Can be used to connect remote control or GPS device compliant with NMEA0183 version 2.01 or 3.01 (requires optional MC-35 GPS adapter cord and cable with D-sub 9-pin connector)
Supported languages	
Supported languages	Chinese (Simplified and Traditional), Dutch, English, Finnish, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Spanish, Swedish
Power source	
Battery	One rechargeable Li-ion EN-EL3e battery
Battery pack	Optional MB-D10 multi-power battery pack with one rechargeable Nikon EN-EL3e, EN-EL4a, or EN-EL4 Li-ion battery or eight AA alkaline, NiMH, lithium, or nickelmanganese batteries; EN-EL4a/EN-EL4 and AA batteries available separately; A BL-3 battery-chamber cover is required when using EN-EL4a or EN-EL4 batteries.
AC adapter	EH-5a or EH-5 AC adapter (available separately)
•	
Tripod socket	



Dimensions/weight	
	Approx. $147 \times 123 \times 77 \text{ mm} (5.8 \times 4.8 \times 3.0 \text{ in.})$
Weight	Approx. 995 g (2.19 lb.) without battery, memory card,
	body cap, or monitor cover
Operating environment	

- Operating environment

 Temperature
 0-40 °C (32-104 °F)

 Humidity
 Less than 85% (no condensation)
- ullet Unless otherwise stated, all figures are for a camera with a fully-charged battery operating at an ambient temperature of 20 °C (68 °F).
- Nikon reserves the right to change the specifications of the hardware and software described in this manual at any time and without prior notice. Nikon will not be held liable for damages that may result from any mistakes that this manual may contain.

AC 100-240 V (50/60 Hz)
DC 8.4 V/900 mA
Nikon EN-EL3e rechargeable Li-ion battery
Approx. 2 hours and 15 minutes when battery is fully
discharged
0–40 °C (+32–104 °F)
Approx. $90 \times 35 \times 58$ mm $(3.5 \times 1.4 \times 2.3 \text{ in.})$
Approx. 1800 mm (5 ft. 11 in.)
Approx. 80 g (2.8 oz.), excluding power cable
battery
Rechargeable lithium-ion battery
7.4 V/1500 mAh
Approx. $39.5 \times 56 \times 21 \text{ mm } (1.6 \times 2.2 \times 0.8 \text{ in.})$
Approx. 80 g (2.8 oz.), excluding terminal cover



Supported Standards

- **DCF Version 2.0:** The **D**esign Rule for **C**amera File System (DCF) is a standard widely used in the digital camera industry to ensure compatibility among different makes of camera.
- DPOF: Digital Print Order Format (DPOF) is an industry-wide standard that allows pictures to be printed from print orders stored on the memory card.
- Exif version 2.21: The camera supports Exif (Exchangeable Image File Format for Digital Still Cameras) version 2.21, a standard in which information stored with photographs is used for optimal color reproduction when the images are output on Exif-compliant printers.
- **PictBridge**: A standard developed through cooperation with the digital camera and printer industries, allowing photographs to be output directly to a printer without first transferring them to a computer.
- HDMI: High-Definition Multimedia Interface is a standard for multimedia interfaces used in consumer electronics and AV devices capable of transmitting audiovisual data and control signals to HDMI-compliant devices via a single cable connection (the camera uses a type C mini-pin connector).



Battery Life

The number of shots that can be taken with fully-charged batteries varies with the condition of the battery, temperature, and how the camera is used. In the case of AA batteries, capacity also varies with make and storage conditions; some batteries can not be used. Sample figures for the camera and optional MB-D10 multi-power battery pack are given below.

CIPA standard ¹

One EN-EL3e battery (camera): Approximately 1000 shots One EN-EL3e battery (MB-D10): Approximately 1000 shots One EN-EL4a battery (MB-D10): Approximately 1900 shots Eight AA batteries (MB-D10): Approximately 700 shots

Nikon standard²

One EN-EL3e battery (camera): Approximately 2500 shots One EN-EL3e battery (MB-D10): Approximately 2500 shots One EN-EL4a battery (MB-D10): Approximately 4300 shots Eight AA batteries (MB-D10): Approximately 1000 shots

- 1 Measured at 23 °C/73.4 °F (±2 °C/3.6 °F) with an AF-S VR 24–120mm f/3.5–5.6G ED lens under the following test conditions: lens cycled from infinity to minimum range and one photograph taken at default settings once every 30 s; flash fired once every other shot. Live view not used.
- 2 Measured at 20 °C/68 °F with an AF-S VR 70–200mm f/2.8G ED lens under the following test conditions: image quality set to JPEG basic, image size set to M (medium), shutter speed ¹/₂₅₀ s, shutter-release button pressed halfway for three seconds and focus cycled from infinity to minimum range three times; six shots are then taken in succession and monitor turned on for five seconds and then turned off; cycle repeated once exposure meters have turned off.



The following can reduce battery life:

- Using the monitor
- Keeping the shutter-release button pressed halfway
- Repeated autofocus operations
- Taking NEF (RAW) or TIFF (RGB) photographs
- Slow shutter speeds
- Using the optional WT-4 wireless transmitter
- Using VR (vibration reduction) mode with VR lenses

To ensure that you get the most from rechargeable Nikon EN-EL3e batteries:

- Keep the battery contacts clean. Soiled contacts can reduce battery performance.
- Use batteries immediately after charging. Batteries will lose their charge if left unused.



Index

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